National Institute of Environmental Health Sciences

Adaptation costs for climate change-related cases of diarrhoeal disease, malnutrition, and malaria in 2030

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Abstract:

BACKGROUND: Climate change has begun to negatively affect human health, with larger burdens projected in the future as weather patterns continue to change. The climate change-related health consequences of diarrhoeal diseases, malnutrition, and malaria are projected to pose the largest risks to future populations. Limited work has been done to estimate the costs of adapting to these additional health burdens. METHODS: The costs of treating diarrhoeal diseases, malnutrition (stunting and wasting only), and malaria in 2030 were estimated under three climate scenarios using (1) the current numbers of cases; (2) the projected relative risks of these diseases in 2030; and (3) current treatment costs. The analysis assumed that the number of annual cases and costs of treatment would remain constant. There was limited consideration of socioeconomic development. RESULTS: Under a scenario assuming emissions reductions resulting in stabilization at 750 ppm CO2 equivalent in 2210, the costs of treating diarrhoeal diseases, malnutrition, and malaria in 2030 were estimated to be $4 to 12 billion. This is almost as much as current total annual overseas development assistance for health. CONCLUSION: The investment needs in the health sector to address climate-sensitive health outcomes are large. Additional human and financial resources will be needed to prevent and control the projected increased burden of health outcomes due to climate change.

Source: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2556651

Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Policymaker

Exposure : ☑

weather or climate related pathway by which climate change affects health

Precipitation, Temperature

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Global or Unspecified

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease, Malnutrition/Undernutrition

Infectious Disease: Vectorborne Disease

Foodborne/Waterborne Disease: Other Diarrheal Disease

Vectorborne Disease: Mosquito-borne Disease

Mosquito-borne Disease: Malaria

Intervention:

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology:

type of model used or methodology development is a focus of resource

Cost/Economic

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Children, Low Socioeconomic Status

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Medium-Term (10-50 years)

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content